Arthropoda Selecta 18(3–4): 145–152

New faunistic records of spiders collected from the mountain Altai (Arachnida: Aranei)

Новые фаунистические находки пауков в Горном Алтае (Arachnida: Aranei)

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KEY WORDS: the Altai, spiders, Aranei, new findings.
КЛЮЧЕВЫЕ СЛОВА: Алтай, пауки, Aranei, новые находки.

ABSTRACT. A list of 61 spider species collected in 2008 from the mountain Altai is provided. Sixteen species are reported for the Altai for the first time. One undetermined and four poorly known species are illustrated: viz., *Cheiracanthium* sp.; *Clubiona pseudosaxatilis* Mikhailov, 1992; *Gnaphosa tuvinica* Marusik & Logunov, 1992; *Pardosa baraan* Logunov & Marusik, 1995; and *P. eiseni* (Thorell, 1875).

РЕЗЮМЕ. Приведён список 61 видов пауков, собранных в горнмо Алтае в 2008 году. 16 видов приводятся для Алтая впервые. Иллюстрированы один неопределенный и 4 малоизвестных вида: а именно, *Cheiracanthium* sp., *Clubiona pseudosaxatilis* Mikhailov, 1992, *Gnaphosa tuvinica* Marusik & Logunov, 1992, *Pardosa baraan* Logunov & Marusik, 1995 и *P. eiseni* (Thorell, 1875).

Introduction

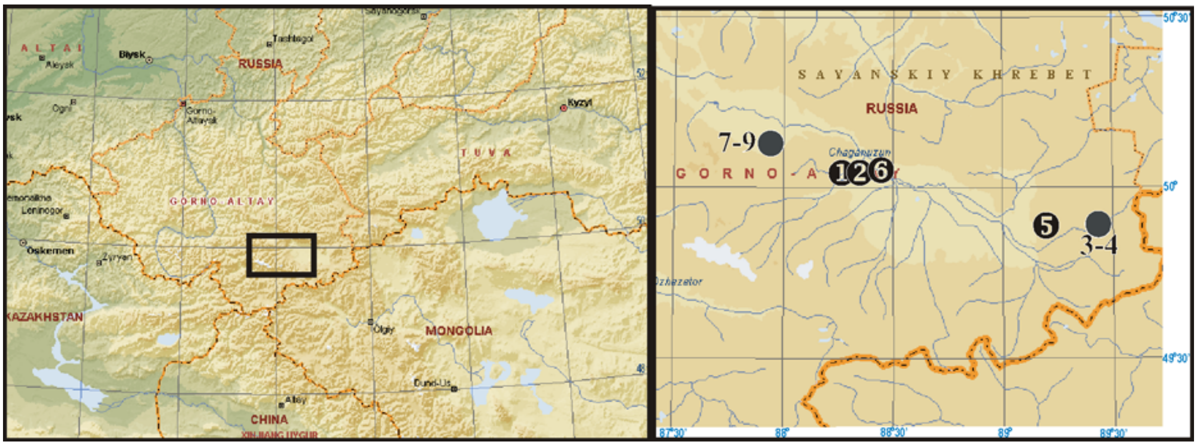
The spiders of the mountains of South Siberia remain poorly studied. To date, only the faunas of Tuva [Marusik *et al.*, 2000], Middle Siberia [Marusik *et al.*, 2002] and Transbaikalia [Danilov, 2008] have been relatively well investigated. As for the Altai, the first spider species from there were recorded by Simon [1895]. Later, several dozens of species were recorded and/or described from the Altai by Ermolajew [1928, 1937]. Following a lapse in research, new data concerning Altaian spiders began emerging during the early 1990s. Lyakhov [1992] described a new species of *Ebo*; Ovtsharenko *et al*. [1992] reported on a *Gnaphosa* species and Ovtsharenko *et al*. [1995] described three new *Parasyrisca* species; eight thomisid species were added by Logunov & Marusik [1994]; Marusik *et al*. [1996] reported on 280 species, including 13 species new to science; all the available data on Salticidae (47 species altogether) were summarized by Logunov & Marusik [2000]; then Tanasevitch [2000] described five Micronetinae species; Marusik & Koponen [2001] added three *Gnaphosa* species; Marusik *et al*. [2004] in their revision of the genus *Acantholycosa* reported on 15 species (12 were described as new); and so on. Yet, the exact number of Altaian spider species remains unknown. Reasoning from the most detailed faunistic paper by Marusik *et al*. [1996] and subsequent works, some of which have been mentioned above, the total number of species reported from the Altai to date is less than 320. Compared to the spider fauna of neighbouring Tuva, Xinjiang or Middle Siberia, this number of species seems rather low. Thus, it is hardly surprising that a relatively short fieldtrip to the Altai by DL allowed us to find 16 additional species (see below).

The purpose of this short faunistic note is to provide a list of species collected during the 2008 fieldtrip to the Altai. Several poorly known species are illustrated and/or commented on.

Material and methods

The spiders reported on in this paper were collected by the second author (DL) during his fieldtrip to the Altai in mid-July 2008. The details of all localities visited and habitats explored are given below. In the following list of species, each species name is followed by a number in square brackets corresponding to the locality in which it was collected. The species recorded from the Altai for the first time are marked with asterisks (*).

Specimens were photographed using an Olympus Camedia C-5050 camera attached to an Olympus SZX12



Map. The region of mountain Altai visited by DL during his 2008 fieldtrip (left) and collection localities (right). Numbers correspond to those explained in «Material and Methods».

Карта. Регион горного Алтая, который посетил DL во время полевых работ в 2008 году, (слева) и точки сбора (справа). Номера соответствуют таковым, расшифрованным в «Материалах и методах».

stereomicroscope. The images were combined using “CombineZM” image stacking software. Photographs were taken in dishes of different sizes, with paraffin at the bottom. Holes of different sizes were made in the paraffin to keep the specimens in the correct position.

The studied specimens have been shared between the following museums: HECO — Hope Entomological Collection, Oxford, UK, Ms. Z. Simmons; ZMUT — Zoological Museum of Turku University, Turku, Finland, Dr S. Koponen.

Localities:

1 — Russia, the Altai, Kosh-Agach Distr., left bank of Chagan-Uzun River, 3–4 km N of Bel’tir Vil., stony slopes, 50°01'24"N, 88°16'42"E, c. 1900 m a.s.l., 8.VII.2008; coll. DV Logunov.

2 — Russia, the Altai, Kosh-Agach Distr., left bank of Chagan-Uzun River, 4–5 km N of Bel’tir Vil.; stony S slope with *Caragana* sp., 50°01'23"N, 88°19'01"E, 1830–1850 m a.s.l., 9.VII.2008; coll. DV Logunov.

3 — Russia, the Altai, Kosh-Agach Distr., c. 25 km N of Tashanta, N shore of Khindyktikol’ Lake, stony slope with grass and *Caragana* sp. (and stony debris), 49°49'33"N, 89°29'09"E, 2475–2500 m a.s.l., 10.VII.2008; coll. DV Logunov.

4 — Ditto, swamp meadow.

5 — Russia, the Altai, Kosh-Agach Distr., middle reaches of Bar-Burgazy River, pebble river bank with grass, 49°49'07"N, 89°10'14"E, c. 2015 m a.s.l., 11.VII.2008; coll. DV Logunov.

6 — Russia, the Altai, Kosh-Agach Distr., valley of Chuya River, stony slopes with grass, 50°04'23"N, 88°24'33"E, 1745–1800 m a.s.l., 11.VII.2008; coll. DV Logunov.

7 — Russia, the Altai, Kosh-Agach Distr., Kurai steppe, foothills of Chui Mt. Range, valley of Titë (=Tyute) River, forest-steppe (larches + dry steppe), 50°08'25"N, 87°53'22"E, 1600–1650 m a.s.l., 13–16.VII.2008; coll. DV Logunov.

8 — Ditto, valley fir forest (pitfall traps).

9 — Ditto, valley meadows (pitfall traps and hand collecting).

List of species

Araneidae (3)

Aculepeira carbonarioides (Keyserling, 1892): 3♂♂ 7♀♀ — [3].
Aculepeira packardi (Thorell, 1875): 2♂♂ 1♀ — [3]; 1♂ 3♀♀ — [7].
Larinioides patagiatus (Clerck, 1757): 1♀ — [7].

Cheiracanthiidae (1)

Cheiracanthium sp.: 1♀ — [7]. The exact species is unclear; the epigyne of this specimen has unusually short insemination ducts (Figs 1–2).

Clubionidae (2)

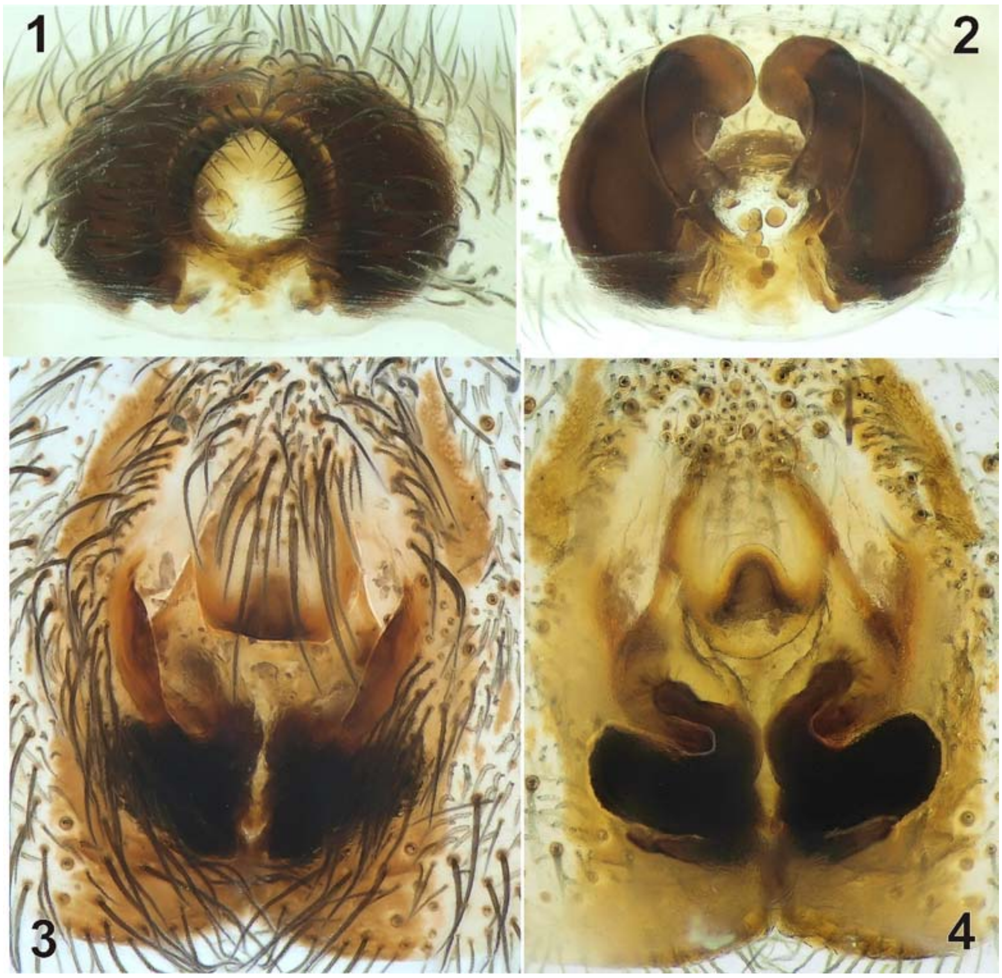
**Clubiona diversa* O. Pickard-Cambridge, 1862: 1♂ — [7].
Clubiona pseudosaxatilis Mikhailov, 1992: 4♂♂ 10♀♀ — [3]; 8♀♀ — [5]. This species displays the Altaian range, being known from SW Tuva to East Kazakhstan [Mikhailov, 2003]. As this species has not been properly illustrated, here we have provided digital photographs of its copulatory organs and its general appearance (Figs 5–12).

Dictynidae (1)

Dictyna arundinacea (Linnaeus, 1758): 2♀♀ — [7].

Gnaphosidae (13)

**Berlandina cinerea* (Menge, 1872): 1♀ — [7]; 1♀ — [9]. This species has a west Palaearctic range and is known from Europe eastward to the Altai.



Figs 1–4. Copulatory organs of *Cheiracanthium* sp. (1–2) and *Gnaphosa tuvinica* Marusik & Logunov, 1992 (3–4): 1, 3 — epigyne, ventral view; 2, 4 — spermathecae, dorsal view.

Рис. 1–4. Копулятивные органы *Cheiracanthium* sp. (1–2) и *Gnaphosa tuvinica* Marusik & Logunov, 1992 (3–4): 1, 3 — эпигина, вентрально; 2, 4 — сперматеки, дорзально.

Drassodes neglectus (Keyserling, 1887): 1♂ 10♀♀ — [3]; 2♀♀ — [7].

**Drassodes platnicki* Song, Zhu & Zhung, 2004: 1♀ — [1]. Previously recorded from northern China, Mongolia and Tuva [Marusik & Logunov, 1995: sub. *D. lesserti*]; the new record represents the westernmost locality.

Drassodes villosus (Thorell, 1856): 6♀♀ — [2].

?*Gnaphosa tuvinica* Marusik & Logunov in Ovtsharenko *et al*., 1992: 1♀ — [2]. The single female collected is unusually large (18.5 mm long, compared to the maximum length of paratypes from Tuva, which was 13.5 mm). Its epigyne differs from those of the paratypes collected from Tuva in the structure of the scape (Figs 3–4) [cf. Marusik & Logunov, 1996: fig. 59–60]. None of the *Gnaphosa* species known from the East Palaearctic region has a similar epigyne.

Gnaphosa leporina (L. Koch, 1866): 1♂ 2♀♀ — [7]; 2♂♂ — [9].

**Gnaphosa mandschurica* Schenkel, 1963: 1♀ — [3]. Previously recorded from Nepal, throughout central China, northward to central Yakutia [Marusik *et al*., 2000]; the new record represents the north-westernmost locality.

Gnaphosa sticta Kulczyński, 1908: 1♂ 1juv. — [8].

Micaria aenea Thorell, 1871: 2♀♀ — [8]; 1♂ 1juv. — [9].

Micaria formicaria (Sundevall, 1831): 1♀ — [9].

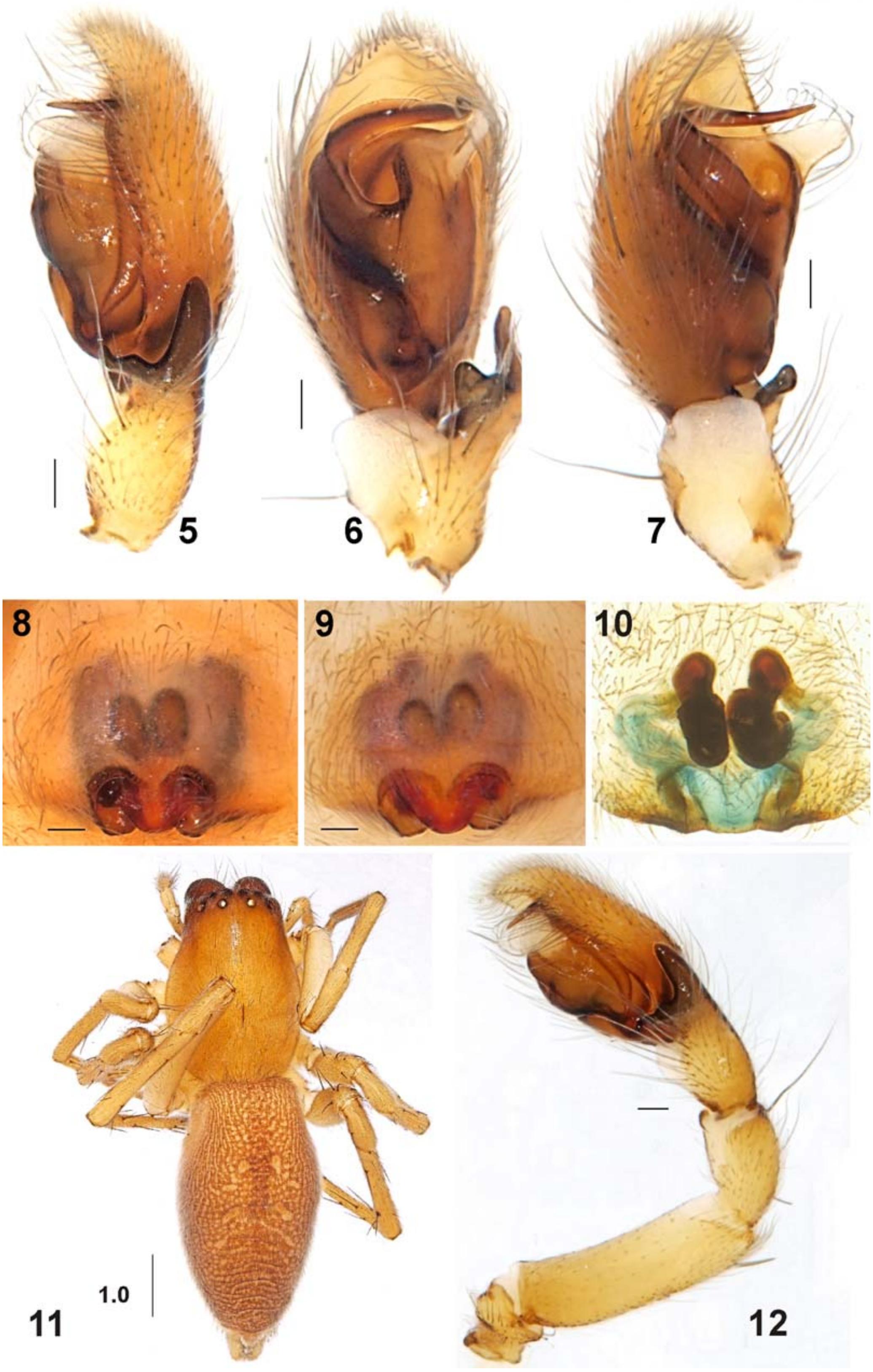
**Micaria lenzi* Bosenberg, 1899: 1♀ — [3].

Parasyrisca asiatica Ovtcharenko, Platnick & Marusik, 1995: 1♂ — [2].

**Zelotes sula* Lowrie & Gertsch, 1955: 1♂ — [8]. Previously recorded from Tuva to the Nearctic region [Marusik *et al*., 2000]; the new record represents the south-westernmost locality.

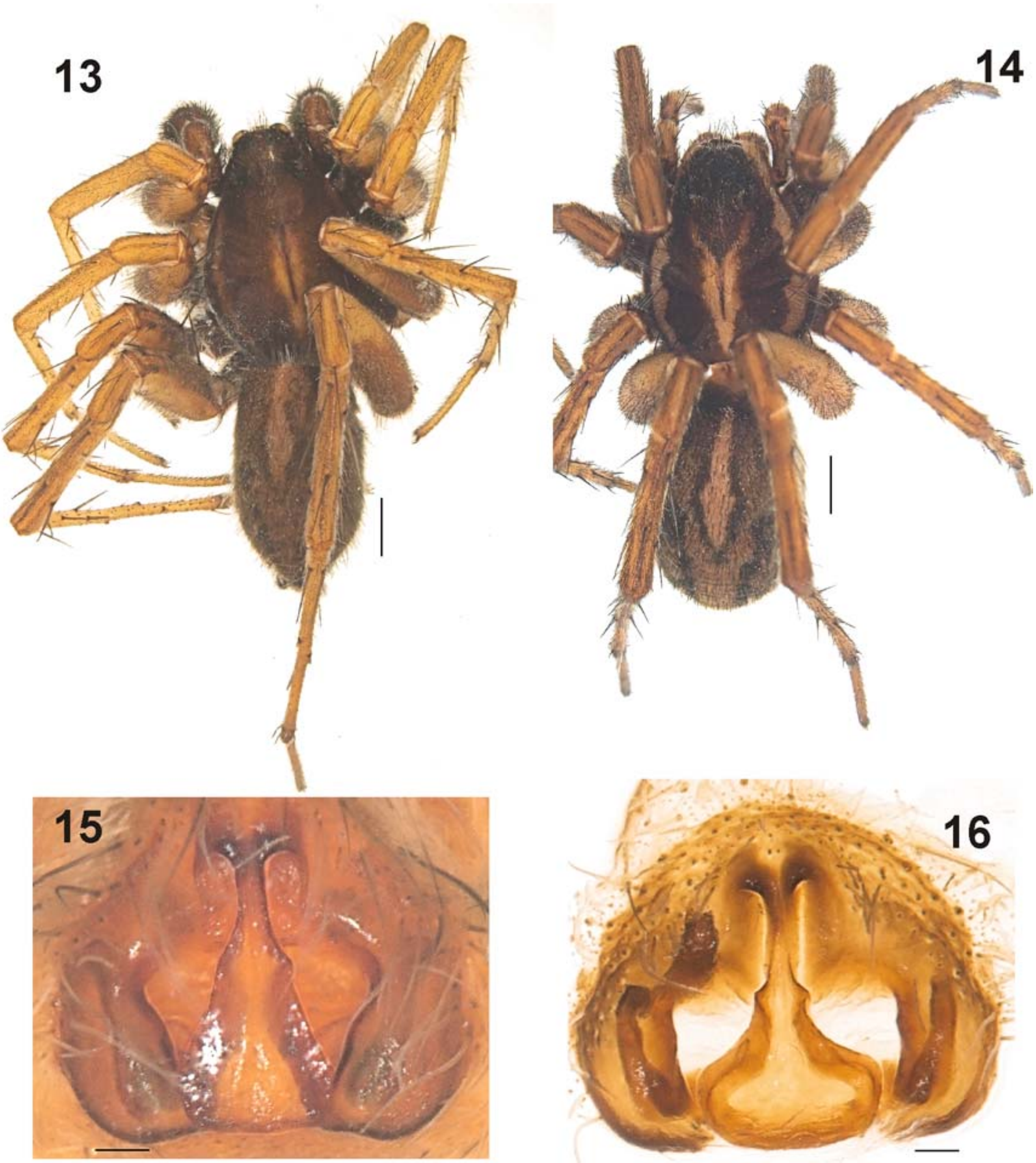
Linyphiidae (6)

Allomengea scopigera (Grube, 1859): 1♂ 1juv. — [9].



Figs 5–12. *Clubiona pseudosaxatilis* Mikhailov, 1992: 5–7 — male palp, retrolateral, ventral and prolateral views, respectively; 8–10 — epigyne, ventral view; 11 — female, general appearance; 12 — entire male palp, retrolateral view. 10 — spermathecae, dorsal view.

Рис. 5–12. *Clubiona pseudosaxatilis* Mikhailov, 1992: 5–7 — пальпа самца, ретролатерально, вентрально и пролатерально; 8–10 — эпигина, вентрально; 11 — общий вид самки; 12 — целая пальпа самца, ретролатерально. 10 — сперматеки, дорзально.



Figs 13–16. *Pardosa baraan* Logunov & Marusik, 1995: 13 — male, general appearance; 14 — female, general appearance; 15–16 — epigyne, ventral view; 16 — epigyne after maceration, ventral view.

Рис. 13–16. *Pardosa baraan* Logunov & Marusik, 1995: 13 — общий вид самца; 14 — общий вид самки; 15–16 — эпигина, вентрально; 16 — эпигина после осветления, вентрально.

**Arachosinella oerogensis* Wunderlich, 1995: 1♂ — [9]. Previously recorded from Mongolia and Tuva [Marusik *et al*., 2000]; the new record represents the north-westernmost locality.

Collinsia inerrans (O. Pickard-Cambridge, 1885): 1♀ — [9].

Collinsia caliginosa (L. Koch, 1879): 2♀♀ — [9].

**Incestophantes tuvensis* Tanasevitch, 1996: 1♂ — [9]. Previously recorded from western Tuva and Central Mongolia only [Marusik *et al*., 2000]; the new record represents the north-westernmost locality.

Lasiargus hirsutus (Menge, 1869): 2♀♀ — [4].

Lycosidae (11)

Alopecosa solivaga Kulczyński, 1901: 1♂ 2♀♀ — [7]; 1♀ — [8]; 1♀ — [9].

Evippa cf. *sibirica* Marusik, 1995: 8♀♀ — [2]. The specimens examined appear to belong to a species distinct from *E. sibirica*, because the females possess a longer epigynal septum than that seen in those collected from Tuva.

**Pardosa baraan* Logunov & Marusik, 1995: 2♂♂ 3♀♀ — [4]. Previously recorded from Tuva to Chita Region and southward to Mongolia [Marusik *et al*.,



Figs 17–21. *Pardosa eiseni* (Thorell, 1875): 17 — male, general appearance; 18 — female, general appearance; 19 — epigyne, ventral view; 20 — spermathecae, dorsal view; 21 — male palp, retrolateral view.

Рис 17–21. *Pardosa eiseni* (Thorell, 1875): 17 — общий вид самца; 18 — бщий вид самки; 19 — эпигина, вентрально; 20 — сперматеки, дорзально; 21 — пальпа самца, ретролатерально.

2000]; the new record represents the south-westernmost locality. This species was illustrated only once [Logunov & Marusik, 1995], therefore we have provided figures of its general appearance and of its epigyne, which is highly variable (Figs 13–16).

Pardosa bifasciata (C.L. Koch, 1834): 2♂♂ 9♀♀ — [3]; 18♂♂ — [8].

Pardosa eiseni (Thorell, 1875): 3♂♂ 1♀ — [8]. Although this species has a Palaearctic distribution, females and males remain poorly known. Therefore, we have provided diagnostic figures of its copulatory organs and its general appearance (Figs 17–21).

Pardosa schenkeli Lessert, 1904: 45♂♂ — [8].

Pardosa palustris (Linnaeus, 1758): 2♂♂ 4♀♀ — [7]; 150♂♂♀♀ — [9].

Pardosa oljunae Lobanova, 1978: 6♂♂ — [6c].

Pardosa sp.-1: 1♂ 3♀♀ — [5]. The specimens represent a new species related to *P. tesquorum* and distributed in South Siberia and Mongolia [Kronestedt & Marusik, in prep.].

Pardosa sp.-2: 1♂ 4♀♀ — [5]; 1♀ — [9]. The specimens represent a new species belonging to the *tesquorum*-group, distributed in South Siberia [Kronestedt & Marusik, in prep.]; it was previously reported from Mongolia and Tuva under the name of *P. paratesquorum* by Schenkel [1963], Logunov *et al.* [1998] and Marusik *et al.* [2000]. The new record represents the north-westernmost locality.

Pardosa sp.-3: 25♂♂ 3♀♀ — [4]. The specimens represent a new species (close to *P. lapponica*) distributed in Siberia eastward of Yenisei River, previously reported under the name of *P.* cf. *lapponica* no.2 by Marusik *et al.* [2000]; the new record represents the westernmost locality.

Philodromidae (6)

**Artanes marusiki* Logunov, 1997: 2♀♀ — [3]. Previously recorded from Khakassia to Buryatia, and southward to Mongolia [Marusik *et al*., 2000]; the new record represents the south-westernmost locality.

**Philodromus triangulatus* Wu & Song, 1987: 1♀ — [1]. Previously recorded from Kyrghyzstan and NE Kazakhstan to Tuva and Mongolia [Szita & Logunov, 2008]; this record lies within the known range of the species.

Philodromus tuvinensis Szita & Logunov, 2008: 1♀ — [7].

Thanatus arcticus Thorell, 1872: 1♂ — [4].

Thanatus bungei (Kulczyński, 1908): 4♀♀ — [3].

Thanatus coloradensis Keyserling, 1880: 1♂ — [3].

Salticidae (5)

Asianellus festivus (C.L. Koch, 1846): 2♀♀ — [7].

Heliophanus patagiatus Thorell, 1875: 8♀♀ — [5].

Pellenes sibiricus Logunov & Marusik, 1994: 3♀♀ — [7].

Phlegra fasciata (Hahn, 1826): 1♂ — [9].

Sitticus floricola (C.L. Koch, 1837): 2♀♀ — [5].

Tetragnathidae (1)

Tetragnatha pinicola L. Koch, 1870: 1♂ — [9].

Theridiidae (4)

Enoplognatha sp. (cf. *gramineusa* Zhu, 1998): 2♀♀ — [2]. The specimens represent a new species, previously recorded from Tuva to Buryatia [Marusik *et al*., 2000: sub. ?*E. gramineusa*].

Steatoda albomaculata (De Geer, 1778): 1♀ — [1]; 1♀ — [3]; 1♀ — [6].

Phylloneta impressa (L. Koch, 1881): 2♂♂ 1♀ — [7].

**Theridion sibiricum* Marusik, 1988: 10♀♀ — [3]; 2♀4 — [2]. The new records represent the south-westernmost locality for this trans-Siberian species [cf. Marusik *et al*., 2000].

Thomisidae (7)

**Xysticus austrosibiricus* Logunov & Marusik, 1998: 4♂♂ — [7, 9]. Previously recorded from Kemerovo Region, throughout South Siberia to central Yakutia [Marusik *et al*., 2000]; the new records represent the south-westernmost locality.

Xysticus bonneti Denis, 1937: 15♀♀ — [3].

Xysticus mugur Marusik, 1990: 1♀ — [2].

**Xysticus ninnii fusciventris* Crome, 1965: 2♂♂ — [7]. This is a widespread European-Siberian species [Utotchkin & Savelyeva, 1995]; this record lies within the known range of the species.

**Xysticus gobiensis* Marusik & Logunov, 2002: 1♀ — [8]. This species has a Mongolian range, being known from Tuva, Mongolia and China (Qinghai and Inner Mongolia) [Marusik & Logunov, 2002]; the new records represent the north-westernmost locality for this species.

Xysticus sjostedti Schenkel, 1936: 1♀ — [3].

Xysticus vachoni Schenkel, 1963: 2♂♂ — [7].

Titanoecidae (1)

**Titanoeca sibirica* L. Koch, 1879: 1♀ — [3]; 3♂♂ 5♀♀ — [7]. The new records represent the south-westernmost locality for this trans-Siberian species [cf. Marusik *et al*., 2000].

Discussion

To sum up, the spider fauna of Altai is not fully known (less than 320 recorded species) and no comprehensive check-list currently exists. The 2008 field-trip undertaken by one of us (DL) took place in extremely remote mountainous areas of the Altai, so we expected to get some new species (cf. a high level of endemism of *Acantholycosa* [see Marusik *et al*., 2004]), but found none. Of other groups famous for having lots of endemic species, e.g. *Parasyrisca*, only a single species was collected. Without doubt, in the future many new/additional species of small spiders will be found, e.g. from the families Linyphiidae, Hahniidae and Theridiidae. As far as we know, a comprehensive taxonomic-faunistic synopsis of the Linyphiidae of the Altai is now under preparation by A.B. Tanasevitch (Moscow, Russia). There are at least 205 species of Linyphiidae eight of which are new to science (Tanasevitch, personal communication).

ACKNOWLEDGEMENTS. We are most grateful to Prof Victor V. Glupov (Novosibirsk, Russia) for inviting DL to the Altai 2008 fieldtrip, in which the material treated in this paper was collected. Dr Dave Penney (Manchester, UK) is thanked for his kind help in editing the English of the final draft. The research of the first author was supported by the Russian Foundation for Basic Research grants ## 08-04-92230 and 09-04-01365.

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